IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A gap-soliton structure comprising:

a cladding structure having alternating layers of different index values; and

a core region that is interposed between said alternating layers of index values wherein said core or said cladding structure is arranged so as to achieve gap-soliton bistability by introducing a modified portion in either of said cladding structure or said core region that comprises one or more non-linear materials so that propagation of certain frequencies is not allowed, wherein the index of said one or more non-linear materials is less than the index of the alternating layers of either of said cladding structure or said core region, wherein said cladding structure and core region define a photonic crystal fiber and wherein said photonic crystal fiber comprises a Holey fiber or omniguide fiber.

2. (Canceled).

3. (Canceled).

4. (Currently Amended) The gap-soliton structure of claim 2, wherein said photonic crystal fiber comprises an omniguide fiber.

5 (Canceled).

6 (Canceled)

7. (Currently Amended) A method of forming a gap-soliton structure comprising:

forming a cladding structure having alternating layers of different index values;

forming a core region that is interposed between said alternating layers of index values;

introducing a modified portion in either of said cladding structure or said core region that comprises one or more non-linear materials so that propagation of certain frequencies is not allowed, wherein the index of said one or more non-linear materials is less than the index of the alternating layers of either of said cladding structure or said core region; and

arranging said core and said cladding structure to define a photonic crystal fiber, wherein said photonic crystal fiber comprises a Holey fiber or omniguide fiber so as to achieve gap-soliton bistability.

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Currently Amended) A gap-soliton structure comprising:

a cladding structure having alternating layers of different index values; and

a core region that is interposed between said alternating layers of index values and comprises, wherein either said core or said cladding structure is indicative to enhancing said gap-soliton bistability of said structure by introducing a modified portion in either of said cladding structure or said core region that comprises one or more non-linear

materials so that propagation of certain frequencies is not allowed, wherein the index of said one or more non-linear materials is less than the index of the alternating layers of either of said cladding structure or said core region, wherein said cladding structure and core region define a photonic crystal fiber and wherein said photonic crystal fiber comprises a Holey fiber or omniguide fiber.

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Currently Amended) A method of forming a gap-soliton structure comprising:

forming a cladding structure having alternating layers of different index values; and

forming a core region that is interposed between said alternating layers of index values so that either said core or said cladding structure is indicative to enhancing said gap-soliton bistability of said structure by introducing a modified portion in either of said cladding structure or said core region that comprises one or more non-linear materials so that propagation of certain frequencies is not allowed, wherein the index of said one or more non-linear materials is less than the index of the alternating layers of either of said cladding structure or said core region wherein said cladding structure and core region

define a photonic crystal fiber and wherein said photonic crystal fiber comprises a Holey fiber or omniguide fiber.

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Canceled)

25. (Original) The gap-soliton structure of claim 1, wherein said core performs single mode guiding of light.

26. (Canceled)

27. (Canceled)

28. (Canceled)

29 (Canceled)

30. (Original) The method of claim 7, wherein said core performs single mode guiding of light.

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Canceled)

35. (Original) The gap-soliton structure of claim 13, wherein said core performs single mode guiding of light.

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Original) The method of claim 19, wherein said core performs single mode guiding of light.

41. (Canceled)

42. (Canceled)

43. (Canceled)

44. (Canceled)